**Traffic Flow Management Presents...**

# The CDM News

## Fall CDM Meeting

The fall CDM meeting was held September 14 – 15, 2005 in Fair Lakes, VA. More than 145 attendees participated in the meeting. Jim Ries welcomed the attendees and introduced Mike Cirillo, System Operations Services Vice President. Mike expressed his gratitude and pride in the role many Traffic Flow Management personnel had to play in the recent hurricane recovery efforts. He also advised that there were several efforts underway on Capitol Hill to promote CDM awareness and funding, some being joint efforts with the Joint Planning and Development Office (JPDO). A key goal is to find the "perfect metric" to better illustrate the value that TFM provides to our customers.

Mike Sammartino, ATCSCC Director of Operations, followed with his appreciation for CDM efforts and an emphasis on continuing to reinforce the "philosophy"/concept behind CDM; that is the "collaboration" of all stakeholders to make the system better. He also mentioned the importance of the new Airspace Flow Program (AFP) project that is currently underway to provide additional service to NAS Customers.

Don Ward, Director of System Operations Programs, then addressed the audience. He pointed out that at a recent FAA Leadership Conference it was made clear that FAA cost reductions, etc. are not enough reason to undertake a program; improved service to our Customers is also a key goal. Don also advised that at a recent JPDO meeting, forecasts of air traffic tripling by 2035 was discussed. In order to meet this challenge, we need to develop new ways of doing business including improved collaboration with customers.

A number of presentations were conducted over the next two days and all of these presentations can be found at: http://cdm.metronaviation.com/whatscdm/cdmmins.html.

Many of the CDM Sub-teams met on Tuesday, September 13, 2005. Some of the Sub-team activities are outlined in the presentations on the web site and summaries of Sub-team activities can be found on pages 2 and 3.

## Airspace Flow Programs

A key topic at the September 2005 CDM Meeting was Airspace Flow Programs (AFP). AFPs will be introduced in ETMS Release 8.2 for use in the summer of 2006.

The foundation of the AFP program is an integration of current Flow Evaluation Area/Flow Constrained Area (FEA/FCA) functionality with Flight Schedule Monitor (FSM). The operational concept is to allow a Traffic Management Specialist, in consultation with Traffic Management Units and Customers, to designate certain Public FEAs or FCAs as "FSM eligible." These FSM-eligible FEAs/FCAs will then generate a demand list that is sent to FSM for modeling, rate setting, and eventual implementation similar to GDPs today. The resulting AFP program will assign Control Times to all flights entering the baseline FCA area.



**Figure 1 (above):** Screen capture from AFP.

The primary benefit of the AFP will to equitably distribute delays to only those flights that need to be controlled due to a constraint. It will also allow Customers to substitute flights they deem most important or to choose reroutes to get around an AFP rather than wait for delay assignments.
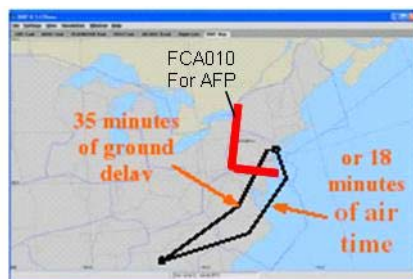
The primary goal of the program for 2006 will be to define a limited number of use cases that can be applied to Severe Weather Avoidance Program (SWAP) scenarios in lieu of multiple GDPs. CDM's Flow Evaluation team will be conducting Human-in-the-Loop (HitL) tests over the next few months to define procedure, training and automation requirements for AFPs in 2006. See the Flow Evaluation Team item on the next page for a summary of their plans.



**Image (above):** In addition to his CDM Lead and TUT Co-Lead responsibilities, **Jim Ries has been appointed as Systems Operations Acting Manager, ATCSCC.**

# CDM Sub-teams Defined

## Flow Evaluation Sub-team

The Flow Evaluation Sub-team met in September in the days surrounding the CDM Meeting to conduct their first Human-in-the-Loop (HitL) tests for the Airspace Flow Program (AFP). The HitLs involved use of simulation and mock-up tools from Metron Aviation and Mitre that allow the Team to create FCAs, pass demand lists to FSM, set airspace rates for an AFP, and assign EDCTs for flights entering the FCA's airspace. Customers are then able to choose a reroute or delay response and the Team can observe and analyze the scenario as it plays out.

As a result of these initial HitL exercises, the Team has decided to focus on creating three "canned" responses that will be used next summer in place of multiple GDPs in support of SWAP. The Team was also able to decide on a couple of other processes regarding filtering and monitoring that should be used for next summer's initial rollout of the new tool.

Three additional AFP HitLs are planned for OCT and NOV 2005. During the late NOV HitLs (29NOV – 1DEC) some remote access/participation from Customers will be trialed. If your company can help support this remote exercise, please contact Glenn Godfrey, FAA (glenn.godfrey@faa.gov) or Lara Cook, Metron Aviation (cook@metronaviation.com).

A Draft AFP Procedures Notice has been developed and reviewed and only awaits validation during HITL runs before being sent for formal procedures review comments by the end of OCT.

Training and QA efforts to support AFPs are also underway.

The Flow Evaluation Team created a short, four-page AFP Overview document for CDM meeting attendees that has been posted at the team's CDM web site http://cdm.metronaviation.com/Workgroups/route_eval.html. Readers are encouraged to pull the Overview document and share it with all Traffic Management personnel and Dispatchers. Other background material and meeting notes are also available at that site.

## DRVSM Sub-team

As specified in the FAA's Operational Evolution Plan, Domestic Reduced Vertical Separation Minimum (DRVSM) for the altitudes Flight Level 290 through Flight Level 410 was implemented in January 2005. Following implementation, the DRVSM Work Group was tasked with analyzing results from the implementation. The Work Group completed its post-implementation analysis assignment with a presentation to the CDM General Session on 14SEP05.

The Work Group's analysis of actual flight data and survey input from around the nation indicates that the implementation was successful in achieving its major expected benefits of reducing fuel burn costs and improving flexibility for FAA traffic management and customer operational personnel.

The Team also feels that follow-on work is still necessary to more fully achieve all the potential benefits that

could be realized from the availability of the new altitudes; e.g., further airspace redesign, further analysis of Monitor Alert values and Letters of Agreement.

The Team Lead, Amanda Stott, spent some time at the conclusion of the presentation thanking her team and support staff for their efforts in preparing for and then analyzing results of the DRVSM implementation.

To review the entire Report, go to: http://cdm.metronaviation.com/Workgroups/drvsm.html

## Midwest Capacity Sub-team

The Midwest Capacity Sub-team's initial recommendations have been approved by the CSG and a 30-day test will begin on October 3, 2005. TMCs will remove ORD departures to EWR from ESP during the 1700Z to 1900Z time frame. ZBW will allow offloads by ZOB without the need for APREQs and ORD will provide a minimum of 30 MIT on any back to back departures to EWR. ZOB will be the trigger facility for this process, but all parties retain the authority to cancel this initiative daily. Data will be collected by ZOB, MITRE and applicable airlines for analysis. Detail guidelines are available on the CDM Web Site.

At some future date, after this test is completed, the Sub-team will work on the evaluation of Chokepoint options for Transcons and the development of recommendations for a trial period as appropriate.

## Next CDM Meeting:
## February 8 - 9, 2006 Fair Lakes, VA

# CDM Sub-teams Defined cont.

## Future Concepts of Flow Management Sub-Team

The last Integrated Collaborative Rerouting (ICR) Human-In-The-Loop (HITL) exercises for FY05 wrapped up on July 21, 2005. This concept introduces the first step of customer submitted reroute preferences and the ability for the FAA to model the impact of various reroute plan options ("What-If scenario").



**Figure 1 (above):** Reroute Modeling

Participants represented TMU and Command Center traffic managers as well as general aviation and commercial airline customers. The Route Options Generation (ROG) capability allowed customers and traffic managers to easily identify pre-coordinated route options (e.g., Preferred Routes, CDRs, Playbook Plays) that avoided the constrained area.

**Figure 2 (right):** Route Options Generation Capability

Finally, Reroute Monitor enhancements proposed a method of monitoring CRI conformance. HITL feedback and observations were captured and draft Operational Concept and draft Functional Requirements documents can be viewed on the Future Concepts of Flow Management Sub-Team page. An Evaluation Results document is in development with detailed HITL exercise results data. This document will also be viewed on the Sub-Team page when available.

Another longer-term concept the Future Concepts Sub-Team has been exploring



is known as Concept #7 or SEVEN (System Enhancements for Versatile Electronic Negotiation). This concept has NAS customers submit prioritized lists of multiple alternative route options for their flights, and provides traffic managers with a tool that algorithmically takes these customer preferences into consideration as it assigns reroutes and delays to flights subject to traffic flow constraints set by the traffic managers. The Sub-Team had conducted two storyboard exercises (3/8/05 and 4/21/05) with industry and FAA participants in order to obtain feedback, explore potential new roles, identify issues/ concerns and further refine the concept. Initial prototype development is underway and HITLs are tentatively planned for FY06.

The Sub-Team met the day before the September CDM meeting and identified a pool of next steps that will be prioritized for FY06. The meeting also included a proposal presentation by Jim Evans of Lincoln Labs that described a probability tool that could potentially enhance recovery by reducing unrecoverable delay from weather scenarios.

Presentations of ICR and Concept SEVEN were provided for the broader CDM community at the September CDM Meeting. The next FCT meeting will be Oct 5th and 6th at Metron Aviation, Inc.
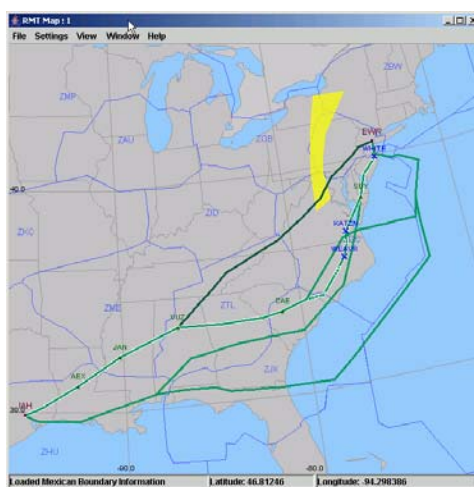
# CDM Sub-teams Defined cont.

### GDPE Sub-team

The GDPE Sub-team met during the CDM meeting and started to develop a list of metrics to be included on the Data Quality Report Card. They also set their priorities for future work that included: Adaptive Compression, Diversion handling, and the handling of Pop-ups. The sub-team recommends the expanded use of distance-based GDPs rather than the use of tier-based GDPs. They are planning their next meeting for November, 2005. Their full presentation to CDM can be found on the CDM web site.

### e-STMP Sub-team

A number of sub-team recommendations have been approved and are being prepared for the fall of 2005. New User Profile and Registration updates will be required this fall prior to getting reservations. A new reservation process will be implemented that will include a confirmation process. The reservation/ confirmation number format will be enhanced to include the reservation airport identifier. Users will be restricted from using the same call sign for multiple reservations within a 30-minute window. Assignment of reservations for alternate airports will be more prominently displayed to the users. Users will now be required to indicate there "Remain Overnight" preference which will improve the quality of the overall data.

There will be substantial changes to the overall Denver Ski Country program for the upcoming season. For details on this, and other new features, see the e-STMP presentation available on the CDM web site.

## e-STMP Reservation/Confirmation Number - ASE214588888C

**Confirmation number =** Airport Identifier - ASE; Res. Time 2145; 5 random numbers - 88888; then "C" is added upon confirmation

# Florida Airspace Optimization (FAO) Project

The FAO project was formed to solve problems with both increased and projected increases in air traffic in the South Florida area. These increases have grown into not only a local, but a national problem resulting in congestion and delays all the way back to the New York airports. Design and Implementation teams were formed from all of the facilities and groups that have a stake in this issue. Solutions included new and modified ARTCC sectors, additional offshore routes, new RNAV STARs, and redesigned conventional procedures. These changes will be implemented in three phases and be completed by December 12, 2005. Annual benefits are estimated at $18.2 million. The full presentation with more details can be reviewed on the CDM Web Site.

# Additional Information

### TFM Training Activities

Steve Bell and members of his staff briefed CDM participants on recent and planned future activities to enhance the TFM training process. A recent training conference identified areas that need improvement and now the staff is working to plan and implement many of these changes. Additionally, a TFM Learning Center is being developed based on the Centra software suite. This will add computer-based distance learning capabilities as an option for future training within TFM. The full presentations with more details can be reviewed on the CDM Web site.

### New Web Site Format/Features

In mid October, a new CDM Web Site format will be introduced and will be available at the same address: http://cdm.metronaviation.com/. A new Feedback area will be available to allow readers to provide feedback on either the content of the site, or to comment and make suggestions concerning TFM.

### Comments/Suggestions

Send feedback to: paul.eure@ngc.com or jim.houde@ngc.com or call (703) 453-8875.

**CDM welcomes Comair as a new Industry CDM Participant.**